

REMARKS

Summary

Claims 1-25 are pending. Claims 22-24 have been withdrawn, and claims 1-21 and 25 are under consideration. In this response, claim 25 is added. No new matter has been added.

Support for the features of new claim 25 may be found in the Specification at page 11, line 29 to page 12, line 4, as well as elsewhere throughout the Specification and Drawings.

103 (a) Rejections

Claims 1-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,765,617 to Mierau et al. (Mierau) and U.S. Patent No. 5,884,682 to Kennedy et al. (Kennedy). Applicants respectfully request reconsideration and withdrawal of the rejections.

Claims 1-15

Claim 1 includes a variety of features, including a control system that adjusts the cross-sectional location of the optimized cross-sectional profile along the length of a workpiece to optimize both workpiece-to-workpiece cross-sectional profiles between adjacent workpieces on the feed path and the cross-sectional profile within a single workpiece. The cited references do not teach or suggest these features.

Both Mierau and Kennedy teach the manipulation of a workpiece to achieve a properly aligned workpiece for further processing (chipping, cutting). As admitted in the Final Office Action, neither reference teaches adjusting the cross-sectional location of the optimized cross-sectional profile along the length of a workpiece.

The Final Office Action goes on to state that doing so would be obvious given the teachings of the references, namely the teachings to orient a log for processing. However, the references fail to teach or suggest an analysis of the optimized cross-

section, and further fail to teach or suggest adjusting the cross-sectional location to optimize both workpiece-to-workpiece cross-sectional profiles between adjacent workpieces and within a single workpiece. The Final Office Action does not establish otherwise.

The adjustments identified in claim 1 do not simply permit moving a log side-to-side, up and down, etc. to best align the log for processing, but rather those adjustments further provide for determination of an optimized cross-sectional profile taking into account a particular workpiece as well as adjacent workpieces. Such a system provides for an optimized output not simply for a single workpiece, but rather for a series of workpieces. That system and function are nowhere taught or suggested by the cited references.

Thus, claim 1 is patentable over Mierau and Kennedy.

Claims 2-5 contain language similar to that of claim 1 and are patentable over the cited references for at least the same reasons as discussed above.

Claims 6-15 are dependent on claims 1-5 and are thus patentable over the cited references for at least the same reasons as discussed above.

Claims 6-10

Furthermore, claim 6 provides for a workpiece interrogator that includes a plurality of profile and/or defect detectors for collectively detecting the workpiece property information and a compiler for compiling the property information from the plurality of profile and/or defect detectors into a single workpiece property information profile for each workpiece.

The workpiece interrogator is described as being upstream of the entrance of the optimizer planar (see claim 1). Claim 6 provides that the workpiece interrogator includes a plurality of profile and/or defect detectors. Thus, claim 6 provides for a plurality of profile and/or defect detectors upstream of the entrance of the optimizer planar. As noted on page 11, lines 20-23, the co-location of the detectors reduces the distance required between the last scanner and the planner because the multiple

scanners/detectors can each scan part of the workpiece at the same time. Such an arrangement and such a benefit are not described in the cited references.

Mierau illustrates an embodiment in which a secondary scanner is used to determine the alignment of a log exiting a log turner, but the secondary scanner does not scan in concert with the upstream scanner. Further, in Mierau, the log must be completely scanned by the single upstream scanner before the log enters the log turner, and thus a large space must be provided between the upstream scanner and the log turner.

In addition, claim 6 provides that the information from the plurality of profile and/or defect detectors is compiled by a compiler into a single workpiece property information profile for each workpiece. Thus, the obtained information is compiled/coupled into a single profile. The cited references fail to teach or suggest such a feature.

As mentioned above, Mierau illustrates an embodiment in which a secondary scanner is used to determine the alignment of a log exiting a log turner. However, the data derived from that scan are not compiled/coupled with the information from the upstream scanner to form a single workpiece property information profile for each workpiece. At Column 4, lines 9-20, Mierau indicates that the secondary scanner provides an independent scan that is used to effect the orientation of the processor, while the first scan is separately used to control the log turner. Thus, there is no single workpiece property information profile provided for each workpiece.

Kennedy provides no such teaching or suggestion.

Therefore, claim 6 is patentable over Mierau and Kennedy.

Claims 7-10 contain language similar to that of claim 6 and are patentable over the cited references for at least the same reasons as discussed above.

Claims 16-21

Claim 16 provides, among other features, an optimizing planer constructed to move at least one of the workpiece and the cutting element as the workpiece passes through the optimizing planer according to the control information for each workpiece,

wherein the movement includes relative movement between the workpiece and the cutting element including up-and-down relative movement, pitch relative movement, and twist relative movement.

The Final Office Action interprets the curve sawing of Kennedy to teach the twist relative movement recited in claim 16. Applicants respectfully disagree.

Kennedy is specifically directed to curve sawing. Curve sawing provides a cutting device that follows the curve of the wood. The resulting curved pieces are later straightened. Kennedy provides a mechanism to establish a high order polynomial smoothing curve fitted to an array of workpiece profiles of a curved workpiece. The smoothing curve utilizes complex algorithmic calculations to arrive at a suitable tool path for the cutting devices. However, Kennedy does not provide any teaching or suggestion of twist relative movement.

As described in the Specification (see page 16, lines 7-18, for example), twist relative movement involves rotation about the x-axis (rotation about the center of the workpiece) and is distinguished from x-axis linear, y-axis linear, and z-axis linear movement as well as y-axis rotation and z-axis rotation. Kennedy does not describe these types of movement, and, in particular, contrary to the assertions of the Final Office Action, Kennedy does not provide for x-axis rotation (twist relative movement).

Mierau provides no such teaching or suggestion.

Thus, claim 16 is patentable over Mierau and Kennedy.

Claims 17-21 are dependent on claims 16 and are thus patentable over the cited references for at least the same reasons as discussed above.

New Claim 25

Claim 25 is added herein and provides for a grading scanner situated along the workpiece feed path downstream of the exit of the optimizing planer, the grading scanner for providing feedback to the control system regarding the cross-sectional profile of the at least partially finished workpiece. The cited references do not provide such a feature. Mierau discloses the use of a second scanner (64), but the second scanner is downstream of the log turner and upstream of the processing/cutting unit. As

such, the second scanner in Mierau does not provide feedback regarding the result of the processing/cutting unit.

Conclusion

In view of the foregoing, Applicant respectfully submits that claims 1-25 are in condition for allowance. A Notice of Allowance is respectfully requested.

If there are any questions, the Examiner is invited to contact the undersigned at (503) 796-2844. Also, the Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,
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